



Safe to Eat Workgroup (STEW) Meeting Notes



Wednesday, April 19, 2023
9:00 AM - 11:00 AM (Pacific)



[Link to Meeting Slides](#) | [Link to Meeting Recording](#)

Agenda Overview

Item	Topic	Lead	Time
1.	Roll Call, Agenda Review, Goals of the Meeting	Jay Davis	9:00 AM (10 min)
2.	Information: Mercury Bioaccumulation in the Hells Canyon Reservoir Complex of the Snake River Desired Outcome: Inform and update the STEW	Collin Eagles-Smith	9:10 AM (30 min)
3.	Information: Quick Updates Desired Outcome: Inform and update the STEW	Jay Davis	9:40 AM (20 min)
4.	Information: Upcoming OEHHA Advisory Priorities Desired Outcome: Inform and update the STEW	Lori Chumney	10:00 AM (30 min)
5.	Discussion: 2021 Bass Lakes (Panel 4) Data and Report Desired Outcome: Inform and update the STEW	Jay Davis	10:30 AM (20 min)
6.	Wrap-up and Adjourn	Anna Holder	10:50 AM (10 min)

Agenda Details

Item 1. Roll Call, Agenda Review, Goals of the Meeting

Discussion

- See [slides](#) (5-6) and [recording](#) for full discussion

Program/STEW Leads

Ali Dunn (SWAMP)
Anna Holder (SWAMP)
Jay Davis (SFEI)

Peer Review Panel

Harry Ohlendorf (Independent)

OEHHA

Lori (Loren) Chumney
Huyen Tran (Tran) Pham
Wesley (Wes) Smith

MLML/MPSL

Autumn Bonnema
Scot Lucas

Regional Boards

R1: Rich Fadness
R2: Kristina Yoshida
R3:
R4: Emily Duncan
R5:
R6: Kelly Huck
R7:
R8: Jason Freshwater, Terri Reeder
R9: Carey Kowalski, Chad Loflen

State Board

OIMA/SWAMP

Delany Broome
Devan Burke
Chad Fearing
Sydney Rilum
Jennifer Salisbury

DWQ

Amanda Blackwell

DWR

Stephen Louie

Water Quality Monitoring Council

Nick Martorano (OIMA/SWAMP)

Other

Sarah Brower (City of San Diego)
Daniel (Dan) Deeds (US Bureau of Reclamation)
Collin Eagles-Smith (US Geological Survey)
Bobby Gustafson (City of Riverside)
Duyen Kauffman (Biomonitoring California)
Sarah Lesnikowski (Caltrans)
Alan Marr (Orange County Environmental Health)
Peter Wanberg
Charlie Yu
Mina Ziaei (San Diego County Water Authority)
+ 1 unidentified participant

Item 2. Mercury Bioaccumulation in the Hells Canyon Reservoir Complex of the Snake River

This presentation will provide an overview of an integrated 10-year research program to investigate the biogeochemical and food web drivers of methylmercury cycling in a three-reservoir system on the Snake River, ID/OR – with a focus on 1) spatial and temporal distribution of mercury through the food web, 2) influence of food web structure on mercury bioaccumulation, and 3) linkages between the processes governing methylmercury production and bioaccumulation.

Discussion

- See [recording](#) for full presentation and discussion
- **PROVISIONAL DATA & FINDINGS**; Final interpretations and reports will be published in the next 6-12 months
- Research question: Why are Hells Canyon Reservoir Complex fish elevated in mercury relative to Idaho and Oregon state standards, particularly as it relates to food web components - key findings:
 - Smallmouth bass MeHg concentrations in large size class fish tend to increase (3.3x) through the system and then drop (1.8x) below Hells Canyon Dam; the trend holds for medium size classes but is not reflected in young of year fish
 - High variability within and among food web compartments across all reservoirs (e.g., 3 orders of magnitude variation in zooplankton)
 - Zooplankton MeHg varies among habitats and with stratification
 - Very little temporal (Spring vs Summer) variability for most biological components; however, zooplankton increase by 1 order of magnitude
 - Zooplankton MeHg concentrations correlated with Smallmouth bass MeHg concentrations (stronger correlations with young of year compared to larger size classes)
 - Substantial seasonal variation in fish Hg concentrations from Brownlee Reservoir corresponds to MeHg increases in zooplankton, associated with reservoir stratification and erosion of metalimnion
 - Pelagic vs littoral food webs in Hells Canyon Complex
 - Brownlee Reservoir (upstream) - food web driven by pelagic energy and production (e.g., zooplankton)
 - Oxbow & Hells Canyon Reservoirs (downstream) - food web clearly linked to benthic energy and production (e.g., benthic invertebrates)
 - More efficient MeHg bioaccumulation in Oxbow & Hells Canyon Reservoirs than Brownlee Reservoir, associated with length of food chains within reservoirs (i.e., longer food chains / trophic steps lead to more efficient bioconcentration and biomagnification factors)
- Questions
 - Q: What are the drivers associated with year-to-year variability?
 - Variability is associated with the degree of anoxia in the water column (i.e., the mass of anoxic water; the amount of stratification, the strength of the stratification and the duration of the stratification. Longer stratification duration over a greater area leads to greater MeHg production in the system.
 - Water operations can also have an impact - temperature increases due to drawdowns combined with higher inputs and higher productivity during summer months can increase MeHg production in the system.
 - Q: Have you looked at sources of mercury?
 - Sources are largely watershed inputs but not a lot of MeHg entering the system. Isotope ratios are more reflective of background atmospheric deposition.
 - Q: What are the next steps or options around trying to reduce methylation, especially in the upstream Brownlee Reservoir?

- The modeling group is looking at drivers now. From there they will work on scenario testing to see what can be done upstream or within reservoirs to reduce methylation.
- Q: Where can we find more information on this work?
 - Best to keep an eye out for publications coming later this year.
 - Can invite other members of the team to discuss other components of the study (e.g., biogeochemical components)

Action Items

- None

Item 3. Quick Updates

- See [slides](#) (8-11) and [recording](#) for full discussion
- 2020 Coast data and report
 - Data status: Only remaining data to be processed are organics - waiting on submission to SWAMP for processing.
 - Report status: The [Cruise Report](#) is complete. Data report will be developed after the remainder of the coast has been sampled (2024) and data processed (2025).
- 2022 Monitoring data
 - Realignment (Project code: SWB_Realign_RWB9_2022) | [Cruise Report](#)
 - RWB9 is still working on collecting lobster samples.
 - All mercury data reported; Some selenium/arsenic still to be processed
 - Organic samples shipped 4/10/23
 - Rivers (Project code: SWB_FishRiv_2022) | [Cruise Report](#)
 - All mercury data reported; one selenium sample still to be processed
 - Organic samples shipped 4/10/23.
 - Central Coast Region (RWB3) Monitoring (Project code: RWB3_SS_BOG (2022)):
 - Organic samples shipped 4/10/23.
- 2023 Lakes (Panel 5) Monitoring update
 - Monitoring started April 3! See the [Monitoring Plan](#) for more details.
 - Q: Consider sampling lakes that were unsampleable in previous years?
 - Most of those lakes were unsampleable due to water access issues or water management decisions that continue to persist. However, we do keep track of those lakes and, where possible, we try to sample them given our logistical, permitting, and budget constraints.
- 2024 Long-term Monitoring Priorities Assessment Templates
 - [Water Boards Template](#) (for CA Water Board Regions, Divisions, and Offices)
 - [Generalized Partner Template](#) (for Tribes, Agencies, and NGOs)
- Bioaccumulation Monitoring Program Realignment & Statewide Tribal Engagement
 - San Diego Region Realignment Cycle (2021-2023) - Next meeting in Jun 2023
 - San Francisco Region Realignment Cycle (2024-2026) - Tribal outreach and

engagement will begin in late-Apr - early-May 2023

- Statewide Tribal Engagement, ongoing - will focus on presentations in tribal spaces rather than sending out letters
- For more information, please see the [Realignment website](#)
- New fish consumption advisories
 - [Castaic Lake \(Los Angeles County, Feb 2023\)](#)
 - [Castaic Lagoon \(Los Angeles County, Feb 2023\)](#)
 - [Pyramid Lake \(Los Angeles County, Mar 2023\)](#)
 - [San Francisco Bay \(Apr 2023\)](#) - NEW - released right after this STEW meeting!
- Updates on TMDLs
 - No one present to provide updates.
- Monitoring Council Updates
 - [Next meeting](#): Jun 1, 2023 - Zoom, focused on groundwater monitoring
 - [Feb 2023 Council Meeting on PFAS Monitoring Recording](#)
 - Site-wide web updates are underway; STEW will likely be ready first
 - New [Council Members](#): [Anthony Chu](#) (Public Health), [Mark Cady](#) (Agriculture), [Jenn Eckerle](#) (CNRA Co-Chair)
- Other updates from the group
 - Bay RMP PFAS fish data being presented at Bay RMP [Emerging Contaminants Workgroup Meeting](#) - will be ready to share at next STEW Meeting!
 - [US EPA March Fish and Shellfish Program Newsletter](#) ([Newsletter Archive](#))
 - Susan Klasing is retiring - congratulations Susan and many thanks for your many years of service and contributions to the BOG/STEW and safe fish consumption in California!
 - New STEW email system - No changes on receiver end when it comes to receiving email updates.

Action Items

- Jay: Coordinate with the SFEI Bay RMP PFAS data team to schedule a presentation for the Jul STEW Meeting.

Item 4. Upcoming OEHHHA Advisory Priorities

At the [Nov. 2022 STEW Meeting](#), attendees requested an update from the Office of Environmental Health Hazard Assessment (OEHHHA) regarding [fish consumption advisory](#) development plans and priorities. This agenda item will include an update from OEHHHA that satisfies that request, including a description of the OEHHHA advisory update process, along with the current list of water bodies that are planned for advisory development or update.

Discussion

- See [slides](#) (12-22) and [recording](#) for full presentation and discussion
- Overview of priority list development process: Download data from CEDEN, refine data, summarize data, score water bodies, determine prioritization
 - Include all species for which there is adequate data (filet data only; except for small

- fish, where whole body data are used)
 - Prioritize new advisories for water bodies with three or more species with at least nine individuals per species or species group
 - For water bodies with existing advisories, determine if newer data would allow for additional species to be included or would change current advice
 - Scoring criteria: contaminant levels in fish (Hg, PCBs), [CalEnviroScreen](#) (CES) score, drive time to another waterbody with an advisory (excluding rivers), number of species that can be included in an advisory
- Advisories in the queue for 2023
 - **NOTE:** Slides 20 & 21 from the recording have been updated to correct region/lake associations that were discussed during the meeting. **Slides shown in the recording are incorrect. Slides in the [linked PDF](#) are correct.**
 - In Review: Gwen Moore Lake (Los Angeles County), Sunbeam Lake (Imperial County)
 - In Preparation: Lake Cuyamaca (San Diego County), South Lake (Inyo County), Lake Hodges (San Diego County)
- Questions
 - Q: Can you clarify the logic behind the driving distance criterion?
 - If the area has lots of advisories it receives a lower score since people have more informed options to fish
 - Discussion regarding multiple corrections to region/lake associations
 - Lori will revisit region/lake associations and make corrections to water bodies list, as needed (see [slides](#) 20-21 for corrected list)
 - Q: Are there plans to create advisories for all eligible waterbodies?
 - OEHHA can create 9-12 advisories per year and update the list of eligible water bodies annually. Stakeholder feedback and requests can influence final priority decisions.
 - Q: Given more recent focus on environmental justice and equity, has OEHHA thought about placing a higher priority on CES scores?
 - Currently CES Scores have equal weight to other scores, could consider shifting bin ranges so a larger range of CES scores would be placed in the “High Priority” bin (e.g., shift high priority range from 50-100 to 25-100). Other options are under consideration as well.
 - Q: Would presenting at the STEW annually, and receiving feedback from members be helpful for OEHHA prioritizing?
 - Yes!

Action Items

- Lori: Share slides and water bodies list (in excel)
- Regional Board Representatives: review water bodies list, provide feedback to OEHHA
- Anna: Circle back with Lori to coordinate annual priority feedback discussions

Item 5. 2021 Bass Lakes (Panel 4) Data and Report

A preliminary look at the 2021 mercury data will be presented, followed by discussion. A timeline for completing the draft and final reports will also be presented. See the [Monitoring Plan](#) and [Cruise Report](#) for a recap of 2021 monitoring.

Discussion

- See [slides](#) (23-36) and [recording](#) for full presentation and discussion
- **PRELIMINARY DATA & FINDINGS (Mercury data only)**
 - Data for 2019 and 2021 appear to be similar; statewide means not significantly impacted by wet/dry years
 - Lakes with substantially high concentrations in the 2021 dataset: Soulejoule Lake, Lake Amador
 - Soulejoule Lake - relatively recent reservoir, surrounded by mining sites
 - Lakes with relatively low concentrations in the 2021 dataset: Lafayette Reservoir, Lake Wohlford
- Data Report Timeline - waiting on organics data, expect to be able to discuss draft report at the Jul 2023 STEW Meeting and finalize the report 1 month after.
- Questions
 - Q: Regarding slide 24 (statewide means by year): Are you waiting until all five panels are complete to develop the “true” statewide average?
 - Yes. We are waiting to complete Panel 5 (sampling happening now). After those data are received, Jay will develop an Interpretative Report that will look at the statewide variation, interannual variation, variation within lakes (where lakes were sampled multiple times), etc.

Action Items

- Jay/Anna: Distribute draft report to STEW email list when ready

Item 6. Wrap-up and Adjourn

- Review action items
- Review items for next meeting
- Next meeting: Jul. 19, 2023, 9:30 am - 12:30 pm

Discussion

- See [slides](#) (37-42) and [recording](#) for full discussion
- Note that the new STEW email system prevents STEW Co-chairs ability to send out or update calendar invites at this time.
- Potential items for Jul STEW Meeting:
 - Bay RMP PFAS fish data presentation
 - Draft 2021 Bass Lakes (Panel 4) Data and Report
 - Webpage update demonstration
 - Sampling plan for 2024

Action Items

- Anna: Post meeting materials and recording on the [Meetings page](#), send email to STEW once complete
- All: Email anna.holder@waterboards.ca.gov with future STEW meeting speaker/topic recommendations